

Name _____

Guide for Determining Individual Traits

1. Spin for the sex of the child and record the genotype and phenotype on the back of your yellow sheet

- If you spin a 1 or a 3, the child is heterozygous with a genotype of XY
 - The phenotype will be a BOY
- If you spin a 2 or a 4, the child is homozygous with a genotype of XX
 - The phenotype will be a GIRL

2. Name your child and record it on the front of your yellow sheet

3. Spin to determine the genotypes for each of the remaining traits in this packet

- 1 and 3 indicate the child will be heterozygous for the trait
- 2 indicates that the child will be homozygous dominant for the trait
- 4 indicates that the child will be homozygous recessive for the trait

4. Record the appropriate phenotype for each trait as well

5. Note: Follow the directions carefully for the hair color and eye color (they are more complicated!)

6. Draw a rough draft of your child (toddler age) below using the determined phenotypes

Remaining Traits:

- Face Shape
 - Round (RR, Rr)
 - Square (rr)
- Chin Shape
 - Round (RR, Rr)
 - Square (rr)
- Cleft Chin
 - Absent (AA, Aa)
 - Present (aa)
- Hair Color
 - Dark color is dominant over light. At least 4 gene pairs are involved in determining hair color. Determine hair color by completing the following procedure:
 1. Spin to determine the genotype of the first pair of genes (AA, Aa, aa)
 2. Spin again to determine the genotype of the second pair (BB, Bb, bb)
 3. Spin again to determine the third pair of genes (CC, Cc, cc)
 4. Spin a final time to determine the fourth pair of genes (DD, Dd, dd)
 5. Total the capital letters and find the hair color below
 - 8 capitals – very dark black
 - 7 capitals – dark black
 - 6 capitals - red
 - 5 capitals – dark brown
 - 4 capitals – medium brown
 - 3 capitals – light brown
 - 2 capitals – dirty blonde
 - 1 capital - blonde
 - No capital – white
- Hair Type
 - Curly (CC)
 - Wavy (Cc)
 - Straight (cc)
- Widow's Peak (the hairline comes to a point in the center of the forehead)
 - Present (WW, Ww)
 - Absent (ww)

- Earlobe Attachment
 - Free (FF, Ff)
 - Attached (ff)
- Freckles on Cheeks
 - Present (FF, Ff)
 - Absent (ff)
- Eyebrows (I)
 - Bushy (BB, Bb)
 - Fine (bb)
- Eyebrows (II)
 - Not connected (NN, Nn)
 - Connected (nn)
- Color of eyebrows
 - Darker than hair (HH)
 - Same color as hair (Hh)
 - Lighter than hair (hh)
- Eyes-distance apart
 - Close together (EE)
 - Average distance (Ee)
 - Far apart (ee)
- Eyes-size
 - Large (EE)
 - Medium (Ee)
 - Small (ee)
- Eyes-shape
 - Almond and wide (AA, Aa)
 - Round and narrow (aa)
- Eye Slantedness
 - Horizontal (HH, Hh)
 - Upward slant (hh)
- Eyelashes
 - Long (LL, Ll)
 - Short (ll)

- Eye color
 - Dark eyes are dominant over light. At least three gene pairs are involved in determining eye color. Determine eye color using the following procedure:
 1. Spin first to determine the first pair of genes (AA, Aa, aa)
 2. Spin again to determine the second pair of genes (BB, Bb, bb)
 3. Spin a final time to determine a third pair of genes (CC, Cc, cc)
 4. Total the capital letters and find the eye color below
 - 6 capitals – dark brown
 - 5 capitals – brown
 - 4 capitals – light brown
 - 3 capitals – hazel (yellow-brown)
 - 2 capitals – blue/green
 - 1 capital – blue
 - 0 capitals – light blue
- Mouth-Size
 - Wide (MM)
 - Average (Mm)
 - Narrow (mm)
- Lips
 - Thick (LL, Ll)
 - Thin (ll)
- Dimples
 - Present (DD, Dd)
 - Absent (dd)
- Nose size
 - Big (NN)
 - Average (Nn)
 - Small (nn)
- Nose shape
 - Rounded (RR, Rr)
 - Pointed (rr)
- Nostril shape
 - Rounded (RR, Rr)
 - Pointed (rr)